UPPER TRISHULI-1 HEP (216MW)			
Client	Doosan Heavy Industries & Construction		
DHI's Subcontractor	Power Construction Corporation of China		
REPLY COMMENT			
Subcontractor	Power Construction Corporation of China		
Incoming Document			
Title of the Document	**Arrangement Drawing of Diversion Tunnel**		
Document/Drawing No.	UT1-C-010-CVL-DG-42001	Revision	0C
Review Document No.	**UT1-HEP-DHI-PC-D-0012**	Reviewed Note No.	**RN-0082**
Received Date	**10.03.2022**	Review status	**RR**
Outgoing Document			
Previous Reply No.	RC-0020	Previous Reply Date.	**23.01.2022**
Reply No.	RC-0029	Reply date	**06.04.2022**

General Comments

• The document under this review is part of the Design Optimization Proposal Procedure.

• As the Diversion Tunnel is considered as a hydraulic tunnel with pressurized flow conditions

with high flow velocities, reinforced concrete lining shall be considered all over the tunnel

section, also in the roof, independent of rock class. This has to be considered in the

excavation drawings as well.

Reply: The shotcrete is designed in the roof as permanent lining.

• The design of the concrete pug is missing. Design of the concrete plug/ shape has to be

considered in the excavation outline of the Diversion Tunnel.

Reply: Plug section is demonstrated in longitudinal profile and by considering lower head bearing by the plug, no additional enlargement is designed.

1 UT1-C-010-CVL-DG-42001-1

a) DWG frame, Name, SCALE, Notes and so on.
Reply: Accept and please refer to the newly revised drawings.

b) The details of inlet, outlet.
Reply: The details of inlet and outlet please refer to " Excavation and support drawing of inlet and outlet portal of diversion tunnel" .

2 UT1-C-010-CVL-DG-42001-2

a) Roof lining material.

Reply: By considering good rock quality, and minor affects of bed load, the roof of tunnel is lined with shotcrete with thickness of 100mm~160mm corresponding to class II and class III, strength of 25MPa.